

AMENDMENTS TO THE CLAIMS

1. **(Currently Amended)** A content reproduction device that performs streaming reproduction of a content, the device comprising:

a plurality of communication units that receive, in parallel, ~~each of pieces of~~ segmented data of a content, the content being a same content, transmitted from a content transmission device over a communication path, a part of ~~the pieces of~~ the segmented data of the content being received by one of ~~said~~the plurality of communication units and another part of the ~~pieces of~~ segmented data of the content being received by another one of ~~said~~the plurality of communication units, ~~each of the pieces of~~ the segmented data having ~~a data amount~~ amounts adjusted based on a transmission speed which enables communication;

a content reconstruction unit having a buffer in which the ~~pieces of~~ segmented data received by ~~said~~the plurality of communication units is temporarily accumulated, and that reconstructs the ~~pieces of~~ segmented data accumulated in the buffer into the content;

a reproduction unit that extracts the content from the buffer at a predetermined bit rate and that reproduces the content at the predetermined bit rate, the content having been reconstructed by ~~said~~the content reconstruction unit; ~~and~~

a communication fee storage unit which stores, in advance, communication fees of the plurality of communication units; and

a communication control unit that:

calculates, for every predetermined time, target transmission speeds to be assigned for content reception by causing the target transmission speeds to associate respectively with ~~said~~the plurality of communication units, based on free space in the buffer and the bit rate; and

transmits a first request signal indicating the calculated target transmission speeds corresponding to ~~said~~the plurality of communication units to the content transmission device via one of ~~said~~the plurality of communication units,

wherein the ~~pieces of~~ segmented data ~~each~~ includes ~~a counter~~ counters indicating an order of the segmentation performed by the content transmission device, and ~~said~~the content reconstruction unit reconstructs the content by extracting the ~~pieces of~~ segmented data accumulated in the buffer in the order of values indicated by respective counters, ~~and~~

wherein the content transmission device transmits ~~each of the pieces of~~ segmented data of the content to be received, in parallel, by ~~said~~the plurality of communication units at a

transmission speed adjusted based on the first request signal, and ~~said~~the plurality of communication units receive, in parallel, ~~each of the pieces of the~~ segmented data of the content transmitted from the content transmission device at the transmission speed adjusted by the content transmission device based on the first request signal,

wherein the communication control unit determines the target transmission speeds of the plurality of communication units based on the communication fees, and

wherein the streaming reproduction is achievable even when the transmission speed of one communication unit is less than a transmission speed assigned to the content for streaming.

2. **(Currently Amended)** The content reproduction device according to Claim 1, wherein the first request signal indicates addresses for ~~said~~the plurality of communication units.

3. **(Currently Amended)** The content reproduction device according to Claim 1, wherein the first request signal is a content obtainment command indicating addresses for ~~said~~the plurality of communication units.

4. **(Cancelled)**

5. **(Currently Amended)** The content reproduction device according to Claim 1, further comprising:

a present position detection unit that detects a present position;

a traveling route obtainment unit that obtains a traveling route starting from the present position detected by ~~said~~the present position detection unit; and

a reception state storage unit which stores, in advance, data reception speeds of ~~said~~the plurality of communication units at each position on the traveling route obtained by ~~said~~the traveling route obtainment unit,

wherein ~~said~~the communication control unit determines the target transmission speeds of ~~said~~the plurality of communication units based on free space in the buffer and the data reception speeds of ~~said~~the plurality of communication units at a position indicated by information on a planned transit position after the present position, the data reception speeds being stored in

~~said~~the reception state storage unit.

6. **(Currently Amended)** The content reproduction device according to Claim 5, further comprising:

a reception speed measurement unit that measures data reception speeds of ~~said~~the plurality of communication units,

wherein ~~said~~the communication control unit:

calculates modified target transmission speeds, each being calculated based on a difference between the target transmission speed assigned for the content reception of each of ~~said~~the plurality of communication units and each of the data reception speeds measured by ~~said~~the reception speed measurement unit; and

transmits a second request signal indicating the calculated target transmission speeds to the content transmission device via one of ~~said~~the plurality of communication units.

7. **(Currently Amended)** A content transmission device that transmits a content over a communication path, the device comprising:

a content accumulation unit that accumulates a content, the content being a same content;

a communication unit that communicates, over the communication path, with a content reproduction device that includes a plurality of communication units with different addresses; and

a communication fee storage unit which stores, in advance, communication fees of the plurality of communication units; and

a content segmentation unit that:

determines amounts of content data to be transmitted based on target transmission speeds of the respective addresses every time a first request signal indicating target transmission speeds of the respective addresses is received, the amounts of content data to be transmitted being determined for the respective addresses;

segments the content accumulated in ~~said~~the content accumulation unit into ~~pieces of~~ segmented data, ~~each of the pieces of the~~ segmented data having a data ~~amount~~ amounts adjusted based on a transmission speed which enables communication; and

transmits the ~~pieces of~~ segmented data of the content addressed to the addresses via

~~said~~the communication unit such that a part of the ~~pieces of the~~ segmented data of the content is received by one of ~~said~~the plurality of communication units and another part of the ~~pieces of the~~ segmented data of the content is received by another one of ~~said~~the plurality of communication units, and the ~~pieces of~~ segmented data ~~each~~ includes a ~~counter~~counters indicating an order of the segmentation performed,

wherein the plurality of communication units receive a part of the ~~pieces of the~~ segmented data of the content obtained by segmenting data of a single content, and the plurality of communication units reconstruct the segmented data based on the order indicated by ~~the~~ a respective counter, and

wherein ~~said~~the content segmentation unit transmits ~~the each of the pieces of~~ segmented data of the content to be received, in parallel, by the plurality of communication units at a transmission speed adjusted based on the first request signal, and the plurality of communication units receive, in parallel, ~~each of the pieces of the~~ segmented data of the content transmitted from ~~said~~the content segmentation unit at the transmission speed adjusted by ~~said~~the content segmentation unit based on the first request signal,

wherein the content segmentation unit determines the target transmission speeds of the plurality of communication units based on the communication fees, and

wherein the streaming reproduction is achievable even when the transmission speed of one communication unit is less than a transmission speed assigned to the content for streaming.

8. **(Currently Amended)** A content reproduction method for performing streaming reproduction of a content, the method comprising:

a plurality of communication steps in each of which ~~each of pieces of~~ segmented data of a content, the content being a same content, transmitted from a content transmission device over a communication path are received, in parallel, by a plurality of communication units, a part of the ~~pieces of the~~ segmented data of the content being received by one of ~~said~~the plurality of communication units and another part of the ~~pieces of the~~ segmented data of the content being received by another one of ~~said~~the plurality of communication units, ~~each of the pieces of the~~ segmented data having a ~~data amount~~amounts adjusted based on a transmission speed which enables communication;

a content reconstruction step of temporarily accumulating, in a buffer, the ~~pieces of~~

segmented data received in the plurality of communication steps, and reconstructing the ~~pieces of~~ segmented data accumulated in the buffer into the content;

a reproduction step of extracting the content from the buffer at a predetermined bit rate and reproducing the content at the predetermined bit rate, the content having been reconstructed in the content reconstruction step; ~~and~~

a storage step of storing, in advance, communication fees of the plurality of communication units;

a communication control step of:

calculating, for every predetermined time, target transmission speeds to be assigned for content reception by causing the target transmission speeds to associate respectively with the plurality of communication steps, based on free space in the buffer and the bit rate; and

transmitting a first request signal indicating the calculated target transmission speeds corresponding to the plurality of communication units to the content transmission device using one of the plurality of communication steps,

wherein the ~~pieces of~~ segmented data ~~each~~ includes ~~a counter~~ counters indicating an order of the segmentation performed by the content transmission device, and ~~said the~~ content reconstruction step reconstructs the content by extracting the ~~pieces of~~ segmented data accumulated in the buffer in the order of values indicated by respective counters, and

wherein the content transmission device transmits ~~each of the pieces of~~ segmented data of the content to be received, in parallel, by the plurality of communication units at a transmission speed adjusted based on the first request signal, and the plurality of communication units receives, in parallel, ~~each of the pieces of the~~ segmented data of the content transmitted from the content transmission device at the transmission speed adjusted by the content transmission device based on the first request signal,

wherein the communication control step determines the target transmission speeds of the plurality of communication units based on the communication fees, and

wherein the streaming reproduction is achievable even when the transmission speed of one communication unit is less than a transmission speed assigned to the content for streaming.

9. **(Currently Amended)** A content transmission method for transmitting a content over a communication path, the method comprising:

a communication step of communicating, over the communication path, with a content reproduction device that includes a plurality of communication units with different addresses;
~~and~~

a storage step of storing, in advance, communication fees of the plurality of communication units; and

a content segmentation step of:

determining amounts of content data to be transmitted based on target transmission speeds of the respective addresses every time a first request signal indicating target transmission speeds of the respective addresses is received, the amounts of content data to be transmitted being determined for the respective addresses;

segmenting the content, the content being a same content, accumulated in a content accumulation unit into ~~pieces of~~ segmented data, ~~each of the pieces of~~ segmented data having a data ~~amount~~ amounts adjusted based on a transmission speed which enables communication; and

transmitting the ~~pieces of~~ segmented data of the content addressed to the addresses using ~~said the~~ communication step such that a part of the ~~pieces of the~~ segmented data of the content is received by one of ~~said the~~ plurality of communication units and another part of the ~~pieces of the~~ segmented data of the content is received by another one of ~~said the~~ plurality of communication units, and the ~~pieces of~~ segmented data ~~each~~ includes ~~a counter~~ counters indicating an order of the segmentation performed,

wherein the plurality of communication units receive a part of the ~~pieces of the~~ segmented data of the content obtained by segmenting data of a single content, and the plurality of communication units reconstruct the segmented data based on the order indicated by the counter, and

wherein the content segmentation step transmits ~~each of the pieces of~~ segmented data of the content to be received, in parallel, by the plurality of communication units at a transmission speed adjusted based on the first request signal, and the plurality of communication units receive, in parallel, ~~each of the pieces of~~ segmented data of the content transmitted during the content segmentation step at the transmission speed adjusted by the content segmentation step based on the first request signal,

wherein the content segmentation step determines the target transmission speeds of the plurality of communication units based on the communication fees, and

wherein the streaming reproduction is achievable even when the transmission speed of one communication unit is less than a transmission speed assigned to the content for streaming.

10. **(Previously Presented)** A program stored on a non-transitory computer-readable recording medium for a content reproduction device that performs streaming reproduction of a content, the program causing a computer to execute the steps included in the content reproduction method according to Claim 8.

11. **(Previously Presented)** A program stored on a non-transitory computer-readable recording medium for a content transmission device that transmits a content over a communication path, the program causing a computer to execute the steps included in the content transmission method according to Claim 9.

12. **(Currently Amended)** A content reproduction device that performs streaming reproduction of a content, the device comprising:

a plurality of communication units that receive, in parallel, ~~each of pieces of~~ segmented data of a content, the content being a same content, transmitted from a content transmission device over a communication path, a part of the ~~pieces of the~~ segmented data of the content being received by one of ~~said the~~ plurality of communication units and another part of the ~~pieces of the~~ segmented data of the content being received by another one of ~~said the~~ plurality of communication units, ~~each of the pieces of~~ segmented data having ~~a data amount~~ amounts adjusted based on a transmission speed which enables communication;

a content reconstruction unit having a buffer in which the ~~pieces of~~ segmented data received by ~~said the~~ plurality of communication units is temporarily accumulated, and that reconstructs the ~~pieces of~~ segmented data accumulated in the buffer into the content;

a reproduction unit that extracts the content from the buffer at a predetermined bit rate and that reproduces the content at the predetermined bit rate, the content having been reconstructed by ~~said the~~ content reconstruction unit;

a communication fee accumulation unit that accumulates, in advance, communication fees of the respective communication units; and

a communication control unit that:

determines a use order of ~~said~~the plurality of communication units based on the communication fees accumulated in the communication fee accumulation unit,

calculates, for every predetermined time, target transmission speeds to be assigned for content reception by causing the target transmission speeds to associate respectively with ~~said~~the plurality of communication units, based on the determined use order, free space in the buffer and the bit rate; and

transmits a first request signal indicating the calculated target transmission speeds corresponding to ~~said~~the plurality of communication units to the content transmission device via one of ~~said~~the plurality of communication units, and

wherein the content transmission device transmits ~~each of the pieces of~~ segmented data of the content to be received, in parallel, by ~~said~~the plurality of communication units at a transmission speed adjusted based on the first request signal, and ~~said~~the plurality of communication units receive, in parallel, ~~each of the pieces of~~ segmented data of the content transmitted from the content transmission device at the transmission speed adjusted by the content transmission device based on the first request signal, and

wherein the streaming reproduction is achievable even when the transmission speed of one communication unit is less than a transmission speed assigned to the content.

13. **(Currently Amended)** The content reproduction device according to claim 12, wherein the ~~pieces of~~ segmented data ~~each includes a counter~~counters indicating an order of the segmentation performed by the content transmission device, and ~~said~~the content reconstruction unit reconstructs the content by extracting the ~~pieces of~~ segmented data accumulated in the buffer in order of values indicated by respective counters.

14. **(Currently Amended)** The content reproduction device according to Claim 12, wherein the first request signal indicates addresses for ~~said~~the respective communication units.

15. **(Currently Amended)** The content reproduction device according to Claim 12, wherein the first request signal is a content obtainment command indicating addresses for ~~said~~the respective communication units.

16. **(Currently Amended)** The content reproduction device according to Claim 15, further comprising:

a present position detection unit that detects a present position;

a traveling route obtainment unit that obtains a traveling route starting from the present position detected by ~~said~~the present position detection unit; and

a reception state storage unit which stores, in advance, data reception speeds of ~~said~~the respective communication units at each position on the traveling route obtained by ~~said~~the traveling route obtainment unit,

wherein ~~said~~the communication control unit determines the target transmission speeds of ~~said~~the respective communication units based on free space in ~~said~~the buffer and the data reception speeds of ~~said~~the respective communication units at a position indicated by information on a planned transit position after the present position, the data reception speeds being stored in ~~said~~the reception state storage unit.

17. **(Currently Amended)** The content reproduction device according to Claim 16, further comprising:

a reception speed measurement unit that measures data reception speeds of ~~said~~the plurality of communication units,

wherein ~~said~~the communication control unit:

calculates modified target transmission speeds, each being calculated based on a difference between the target transmission speed assigned for the content reception of each of ~~said~~the communication units and each of the data reception speeds measured by ~~said~~the reception speed measurement unit; and

transmits a second request signal indicating the calculated target transmission speeds to the content transmission device via one of ~~said~~the communication units.